

## **ABSTRACT**

1       An apparatus and method having a de-interleaving memory and a controller is  
2 used for de-interleaving interleaved data in a coded orthogonal frequency division  
3 multiplexing receiver. The controller generates the correct access addresses of the de-  
4 interleaving memory for the data to be de-interleaved, and controls the read and write  
5 operations to the de-interleaving memory. The controller comprises an address generator  
6 having a plurality of base address generators, and a read/write control circuitry. By using  
7 the de-interleaving memory combined with memory address computation for the  
8 interleaved data, frequency de-interleaving, block de-interleaving and time de-  
9 interleaving are performed in one-stage approach in the COFDM receiver. The memory  
10 size is reduced and the circuitry complexity for performing the de-interleaving process is  
11 relatively low.